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RURAL ELECTRIFICATION IN WYOMING

THE ROLE OF THE RURAL ELECTRIFICATION ADMINISTRATION PROGRAM IN THE DEVELOPMENT AND OUTLOOK FOR RURAL ELECTRIFICATION IN WYOMING

PRESENTED BY MR. O'MAHONEY

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CONTENTS

FOREWORD

One of the great developments of the last 17 years has been the extension of electricity to the farm households of America. Central station electric service was not available in 1935 to more than one-tenth of all the farms and ranches in the United States. In some areas of the country, particularly in the Mountain States of the West, the proportion was even smaller. The rural population of the Great West and of the country as a whole was dependent for light and power, respectively, on kerosene and hand labor.

In those days it was generally believed that the people living on the farms and ranches of the country would not provide a profitable market for central station service. Even when the National Industrial Recovery Act was passed in 1933 and Government loans were offered to private companies to extend their lines into the countryside, advantage was not taken of the opportunity. It was left for the great statesman from Nebraska, the late Senator George W. Norris, to sponsor the rural electrification law whereby Government loans to rural electric cooperatives became possible for the purpose of providing this most essential of modern services to the rural population—namely, electric energy for lighting and for power.

It is difficult to visualize on a national scale the extent and significance of this movement and the part the Rural Electrification Administration has played in it. It was in 1935 that Senator Norris pointed the way by introducing his bill. I counted myself fortunate indeed that I was able to support him in the enactment of the law. One way to examine the development of rural electrification, and to study the problems that still remain to be solved, is to review REA expansion in a single State. I have undertaken to have this done for the State of Wyoming. Looking backward I find that whereas in 1935 scarcely 3 percent of Wyoming's farms and ranches were receiving central station electric service, the progress achieved in 16 years, according to the records of the REA, has resulted in more than 75 percent of all Wyoming's farms and ranches now receiving this modern service. From the time I first saw the development initiated near Pine Bluff I have seen REA cooperatives spread throughout the State. Twenty of the twenty-three counties in Wyoming now have fully operating REA co-ops, or projects in construction under loans already made.

The spread of the REA movement has been one of the most powerful stimulants to private business and industry. The rural areas of Wyoming, as indeed of all the country, are a far better market now for the city merchant and the national manufacturer than they were 17 years ago. The record shows that the farmer invests in plumbing, in electric appliances, in vehicles, four times as much as is invested under the REA loans in the power facilities themselves. More than this, the record in Wyoming, which is typical of the country, shows that the cooperatives are rapidly repaying the Government loans. As a matter of fact, six of the REA cooperatives of Wyoming are ahead of their repayment schedules; nine are meeting the require-

ments of their contracts; and only one delinquency existed as of June 30, 1951. That delinquency amounts to only $4,742 as compared to total borrowings of $13,583,439 by the 16 borrowers in the State.

The accompanying analysis of rural electrification in Wyoming was prepared at my request by the Rural Electrification Administration and I have had it analyzed by a staff member of the Joint Economic Committee. This I have done with the feeling that this report on REA in Wyoming will be helpful not only to citizens of my State but to other persons desiring to understand the way in which rural electrification has increased farm production and enabled farm families to share in our improved standard of living. I think it can be said without any reservation, not only that the rural standard of living has been raised through the operation of REA, but that business and industry and private enterprise throughout the State have been beneficiaries of the development.

JOSEPH C. O'MAHONEY.

RURAL ELECTRIFICATION IN WYOMING

Introduction[1]

In 1935, at the time the Rural Electrification Administration was established, only 1 farm in 10 throughout the United States was receiving central station electric service. This Nation's countryside was still dependent upon the kerosene lamp and a great amount of hand labor. Now, just 17 years later, nearly 9 out of every 10 farms are connected to rural electric power lines and farmers are using electricity to increase their farm production as well as to make the rural home a safer and more comfortable place to live.

For the State of Wyoming rural electrification has brought great changes. In 1935 only 3 percent of the State's farms and ranches were receiving central station electricity, although a number of additional farms had installed individual generating plants. At the end of June 1951 more than three-quarters of all farms and ranches in the State were being served.

The following report, prepared at the request of Senator O'Mahoney, examines the conditions and policies that made possible this great advance in rural electrification. It surveys some of the current problems, such as obstacles to be overcome in completing full area coverage of the State, the need for additional transmission lines, and the extent to which farmers can turn to electric power as a means of boosting yield.

Development of Rural Electrification in Wyoming

SLOW BEGINNINGS

Farm electrification had advanced very slowly in the United States during the 53-year period from 1882, when the first central generating system went into service, to 1935, when REA was created. A few farms were connected to power lines prior to World War I. The early twenties saw a short-lived spurt in which progress made in electrical engineering was reflected by a small increase in the number of farms served. However, only 10.9 percent of all farms in the United States were receiving central station electric service by 1935.

In Wyoming, only 527 farms—about 3 percent of all farms in the State—were being served. Few power lines had been built beyond the immediate vicinities of cities and towns. Additional numbers of rural establishments were generating their own electricity, using Delco plants, wind-generating units, and similar equipment.

Costs of power were high and consumption figures were low throughout the State's rural areas.

[1] The study here presented was prepared from records of the Rural Electrification Administration, supplemented by materials from other standard Government and private sources.

EFFECTS OF REA

The establishment of the Rural Electrification Administration in May 1935 and subsequent operations of that agency stimulated the extension of electric service into rural areas on an unprecedented scale. Between 1935 and June 30, 1952, nearly 4 million additional farms in the United States had been connected to central power lines by all agencies, public and private. More than half of the farms connected since 1935 received electric service from REA-financed systems. The remainder were added to lines of other suppliers, many of which were stimulated to greater activity in the rural field by the REA program.

For the Nation as a whole the periods of greatest increase in the number of farms connected came just before and just after World War II. As of June 30, 1951, REA estimated that 4,529,620 of the farms recorded in the 1950 census, or 84 2 percent, were electrified. Still waiting for service, however, are more than 800,000 farms and many thousands of rural schools and churches, crossroads businesses, and a wide variety of rural industries as well as hundreds of thousands of nonfarm dwellings in rural areas.

THE PATTERN IN WYOMING

The 1950 census reported 12,614 farms in the State of Wyoming. REA estimates that 9,626 of these were receiving central station electric power at the end of June 1951. This would be 76.3 percent of all farms in the State, a percentage figure below the national average. This left 2,988 farms, or 23.7 percent of the total in the State, unelectrified as of that date.

An examination of statistics on rural electrification in neighboring States in the Great Plains and Rocky Mountains areas show a striking similarity:

	Percent		*Percent*
Wyoming	76. 3	North Dakota	74. 4
Montana	73. 8	South Dakota	74. 4
Colorado	78. 1	Nebraska	87. 2
New Mexico	60. 5		

Problems confronting rural electrification in Wyoming also have been typical in many respects of those found in this whole tier of Western States. A great many of the ranches and farms in this area cover thousands of acres and are correspondingly far apart. Rough terrain conspires also to space out rural homes. The pattern in Wyoming and in the neighboring States is one of few consumers per mile of line and therefore high costs of line construction and system maintenance.

Sixteen REA borrowers, all but one of them organized as locally owned and locally controlled, nonprofit cooperatives, undertook the major part of the job of extending electric transmission lines to Wyoming's unserved areas. These systems had constructed 9,746 miles of line by December 31, 1951, and were serving 15,274 farms and other rural homes and establishments. This figures out on an average of about 1.6 consumers per mile of line, a density figure far below what would be considered acceptable by any ordinary commercial

electric utility company. The Wyoming average on REA-financed systems is about half that of the national average on REA-financed systems, pointing clearly to the thinly settled territory which the local borrowers are serving under the area-coverage pledge in their loan contracts. That those who have been elected directors of these systems are seriously undertaking to provide electric service to every farm and other rural establishment in Wyoming is evident in the trend of statistics on the number of consumers per mile. As the borrowers extend new distribution lines into ever thinner territory the number of consumers per mile of line has continued to edge downward over the past 3 years. All but three of the REA borrowers in the State show such a trend.

FACTORS OF FEASIBILITY

In spite of this thinning process and efforts to lower rates, REA-financed systems in Wyoming are in sound financial condition. All except the three newest ones show a net margin in their operations—margins, incidentally, which are credited to consumers as overpayment on their bills and pledged for eventual return to the consumers in these nonprofit cooperative associations. Key developments in Wyoming's progress toward full area coverage in rural electric service at reasonable rates are these:

(1) Low wholesale rates on power made available to the distribution systems by generating plants operated by the Bureau of Reclamation, and

(2) Rapid increase in the consumption of electric power by the ranchers, irrigation farmers, lumber mills, mines, rural processing plants, and other consumers on the distribution lines. This high potential use of electric power goes far to offset the many difficulties in distribution. If a farmer used electric power solely for household lighting and a radio, the construction costs of a long extension to reach his home could scarcely be justified. This is seldom a problem in the State of Wyoming, where ranchers and farmers are quick to use electric power for a wide variety of farm production equipment and household appliances. High consumption pays off the cost of extended lines within reasonable periods of time.

The irrigation load in Wyoming is heavy, and although it creates a seasonal demand peak, it can be carried by the distribution systems without creating costly demand peaks within the 24-hour period. The volume of electric water pumping figures prominently in determining the feasibility of rural electric systems in the State.

Another important factor in reaching Wyoming's most isolated farms is the integration of many small towns (under 1,500 population) into the distribution networks of the REA borrowers. Settlement of the State has followed the valleys, and the rural electrification lines built up the valleys to serve every farm pass right through small rural towns in many instances. Acquisition of these service areas of higher consumer density has made feasible systems possible where service limited to widely spaced farms would have encountered almost prohibitive costs. Some of the acquisitions were municipal systems, others were privately owned; but in every case the townspeople generally approve the consolidation of town and country lines under management of a locally owned cooperative.

21825—52——2

Integration of small towns and farm areas, with the addition of such rural industrial consumers as mines, sawmills, and pumping at oil fields, has combined power loads of varied characteristics. The result is a more balanced demand on the lines of REA borrowers, permitting more economical operation.

There is some evidence, too, that development of service areas in this way has helped pull ranchers and townspeople closer together.

REGULATORY JURISDICTION

Although the State of Wyoming did not pass special enabling legislation for rural electric cooperatives to use in organizing and operating, neither was any legislative or legal bar raised against the program at any of its stages of development. The Wyoming Public Service Commission maintains regulatory responsibility for some functions of the REA-financed systems, but has always worked closely with the borrowers in their efforts to attain full area coverage in those parts of the State which they serve.

MATERIALS CONTROLS

During World War II shortages of copper, steel, and other construction materials seriously cut back the extension of rural electric facilities in Wyoming as well as other States. With reimposition of controls on critical materials at the start of this Nation's preparations for defense against the growing threat of Communist aggression, REA undertook the allocation of controlled materials among its borrowers. Thus REA represents the thousand-odd rural electric systems which would otherwise have to scramble for individual shares in the supply of controlled materials made available by the National Production Authority through the Defense Electric Power Administration. On the basis of its knowledge of borrowers' construction needs, REA has been able to apportion aluminum, copper, and steel in such a manner that no extension in Wyoming or elsewhere has been seriously hampered.

The REA Pattern

AREA COVERAGE

Lines constructed by REA borrowers are built to serve entire areas, including the less densely settled sections along with those of greater population. This is "area coverage." Its test is not whether an individual line or section will be self-supporting, but whether the entire system as a whole is feasible. This policy has become increasingly important as the rural electrification job has progressed. Only through area coverage can electric service be extended to many of the more isolated farms and to groups which are remotely situated in pocketed areas far removed from any established source of power.

COOPERATIVE ORGANIZATION FOR SERVICE AT COST UNDER LOCAL CONTROL

In Wyoming 15 of the 16 borrowers from REA are organized as consumer-owned cooperatives. Of 1,076 borrowers throughout the United States, 986 fall into this category. Such a proportion was not

foreseen in the first days of REA, but was the outgrowth of failure by existing commercial electric utility companies to take advantage of the Government's loan program and to proceed with rural electrification. After spokesmen for the industry made it clear that they could not expect to profitably serve rural territory on an area-wide basis even with the long-term, low-interest loans offered by REA, farm organizations began to push for loans to local groups of farm people organized as nonprofit cooperatives. Rural people, familiar with the cooperative form of enterprise in their marketing operations and purchase of farm supplies, found rural electric cooperatives to be the most effective instruments for carrying out the REA program. There were several evident advantages:

Cooperatives are membership associations. They are organized by local people to serve themselves at cost. The members—local farmers and other rural people of the service area—own the cooperative and control it themselves. In their own self-interest members help keep down costs of operations by reporting dangerous line conditions, by avoiding unnecessary service calls, by reading their own meters. Members of all the Wyoming rural electric cooperatives send in their own meter readings and in some of these cooperatives the members compute their own bills and make remittance without the usual billing procedures. Control is exercised by members mainly at the annual meeting where they elect a board of directors from among their membership. The board meets periodically to set policy and exercise over-all supervision of the cooperative and its operations. Directors on the board serve without pay, performing their responsibilities as a service to the communities in which they live. Actual day-by-day management of the business is in the hands of a paid manager, hired by the board.

THE ROLE OF GOVERNMENT

In consideration of the obvious advantages of local ownership and control of the electric system, REA's aim is the least interference in the borrower's business affairs consistent with maintaining security of the loan.

As in other parts of the country, the Wyoming borrowers depended rather heavily at first upon the services available to new borrowers from REA. These auxiliary services include, for example, advice on line construction and rates, legal assistance in presentations before regulatory bodies, materials to use in power-use education among members, management-analysis services, and auditing of the borrower's accounts and records. As these new businesses gain operating experience and the technical know-how necessary to consumer-owned rural electrification, they themselves assume more and more of these responsibilities. Eleven of the Wyoming borrowers already arrange for their own auditing. All of them provide their own legal counsel.

TERMS OF REA LOANS

Before 1945, the interest charged by REA on loan funds ranged from 2 to 3 percent, and the maximum loan period was 25 years. Since then, however, all loans have been made at 2 percent simple annual interest for a period not to exceed 35 years. REA loans for rural

electrification usually are "100-percent" loans inasmuch as the borrower is not required to provide initial equity capital beyond nominal membership fees (usually $5). Borrowers carry the full responsibility for these loans as corporate bodies, and the only recourse of the Government in case of possible default is that of foreclosure on the facilities financed by the loan.

Allotment of Loan Funds and Repayment Record of Wyoming Borrowers

ALLOCATION AND ADVANCE OF LOAN FUNDS

In allocating available loan funds for the development of rural electrification, REA is governed by a provision in the Rural Electrification Act of 1936 as amended which specifies that 50 percent of the funds shall be allotted yearly among the several States in the proportion which the number of farms of each State not then receiving central station electric service bears to the total number of farms of the United States not then receiving such service. Of the remaining half of each year's funds, not more than 10 percent may be allotted to borrowers in any one State.

Loan funds are not actually advanced to the borrowers, however, until the money is required to meet expenses. This helps the financial position of borrowers by keeping down their burden of interest, and at the same time represents no cost to the Government inasmuch as funds remain in the United States Treasury until the actual advances are made.

TOTALS FOR WYOMING

During the fiscal year ended June 30, 1951, REA approved electrification loans for Wyoming borrowers amounting to $3,459,707. This brought to $20,646,307 the total of loans approved for the 16 borrowers in the State. By December 31, 1951, the total was $21,016,307.

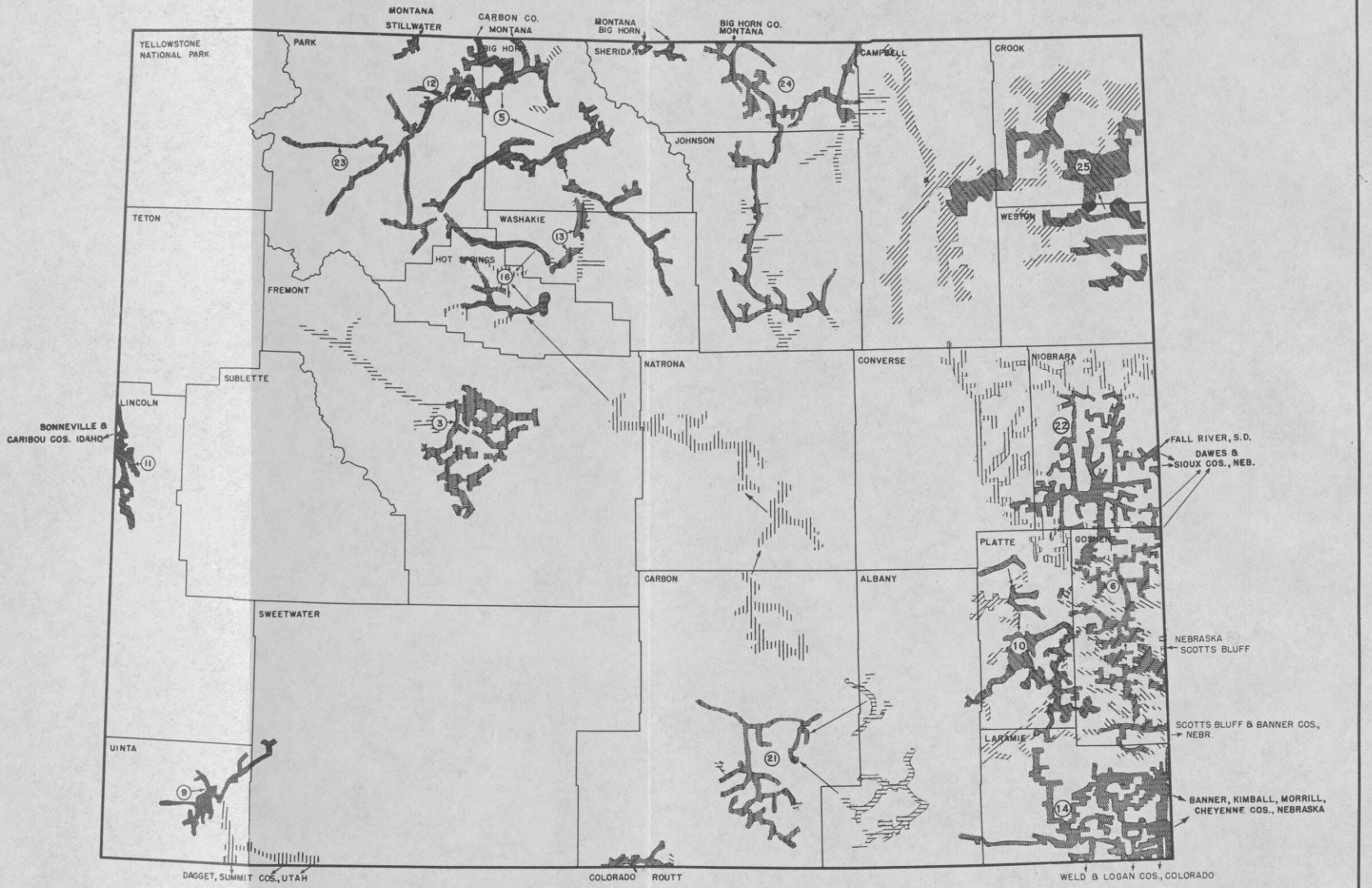
Of all loans approved for Wyoming borrowers through the end of December 1951, $18,650,128 have been for electric distribution facilities, $2,241,179 for generation and transmission, and $125,000 for consumer facilities.

Loan funds actually advanced to electric borrowers in Wyoming during fiscal 1951 totaled $2,975,495. This made the sum of all advances in loan funds for rural electrification in the State amount to $13,583,439 by the end of June 1951 and to $15,141,253 by December 31, 1951.

TOTALS FOR THE UNITED STATES

Comparable figures for the entire country show electrification loans totaling $221,733,800 approved by REA during the fiscal year ended June 30, 1951. This represents a grand total of $2,427,204,114 in loans approved for 1,076 borrowers since the start of the program ($2,484,443,832 through December 31, 1951). Advances to borrowers

RURAL ELECTRIFICATION ADMINISTRATION



WYOMING

SCALE – STATUTE MILES

0 10 20 30 40 50

LEGEND

LOANS MADE OR CONSTRUCTION IN PROGRESS

ENERGIZED

REVISED AS OF DECEMBER 31, 1951

WYOMING

KEY TO REA-FINANCED SYSTEMS IN WYOMING

③ Riverton Valley Electric Association, Inc. Riverton, Wyo.
⑤ Big Horn Rural Electric Co., Basin, Wyo.
⑥ Wyrulec Co., Lingle, Wyo.
⑨ Bridger Valley Electric Association, Inc., Mountain View, Wyo.
⑩ Wheatland Rural Electrification Association, Wheatland, Wyo.
⑪ Lower Valley Power & Light, Inc., Freedom, Wyo.
⑫ Garland Light & Power Co., Powell, Wyo.
⑬ Washakie Rural Electric Co., Worland, Wyo.
⑭ Rural Electric Co., Pine Bluffs, Wyo.
⑯ Hot Springs County Rural Electric Association, Inc., Thermopolis, Wyo.
㉑ Carbon Power & Light, Inc., Saratoga, Wyo.
㉒ Niobrara Electric Association, Inc., Lusk, Wyo.
㉓ Shoshone River Power, Inc., Cody, Wyo.
㉔ Sheridan-Johnson Rural Electric Association, Sheridan, Wyo.
㉕ Tri-County Rural Electric Association, Sundance, Wyo.

21825 O - 52 (Face p. 7)

throughout the United States amounted to $268,130,658 during fiscal 1951, making a total of $1,827,017,836 in loan funds advanced for rural electrification ($1,944,860,101 through December 31, 1951).

REPAYMENT RECORD

Wyoming borrowers have established an outstanding record in repayment of principal and interest on their REA loans. Only one of this State's REA-financed systems is delinquent in its payments, and six of them are ahead of their repayment schedule. The single delinquency totals $4,742 and is expected to be repaid when cheaper wholesale power becomes available.

While this near-perfect record of borrowers in Wyoming is noteworthy, the picture of repayments by REA borrowers throughout the United States as a whole is almost equally bright. By the end of the 1951 fiscal year nearly three-fifths of all borrowers had made advance payments beyond the total amounts due. A total of $263,000,000 in scheduled interest and principal payments had become due by June 30, 1951. Borrowers had actually repaid $296,000,000, with advance payments amounting to more than $33,000,000.

Only 50 borrowers out of 1,076 were behind in either principal or interest payments more than 30 days. Total arrears amounted to less than $700,000, or 0.26 of 1 percent of the amount due. Delinquency as a percent of the amount due has continued to decrease steadily since 1946. This is a record scarcely short of phenomenal for 100-percent financing.

Analysis of REA Borrowers in Wyoming

AREAS SERVED

The accompanying map shows the location of areas in Wyoming served by REA borrowers. The lines of these 16 locally owned and locally controlled distribution systems supply a network of electric power to the fertile farm lands in the southeastern part of the State and stretch up the valleys of all but 2 of Wyoming's remaining counties. Projected lines now approved will carry electricity into Teton and Sublette Counties in addition to extensions in counties already served in part.

COMPARATIVE STATISTICS

Selected statistics in the accompanying tabulation (table 1) show pertinent operating characteristics of the REA borrowers serving rural Wyoming.

TABLE 1.—*Selected operating statistics of REA borrowers in Wyoming*

[Data as of Dec. 31, 1950]

System	REA loans approved	Funds advanced	Miles of line energized	Consumers connected	Kilowatt-hours per residential consumer		Net margin after depreciation [1]	Interest and principal repaid to REA
					December 1946	December 1950		
Riverton Valley Electric Association, Inc., Riverton	$1,025,000	$631,839	604	1,063	112	193	$11,408	$157,840
Big Horn Rural Electric Co., Basin	1,023,000	882,605	653	1,279	88	142	9,984	188,750
Wyrulec Co., Lingle	1,749,600	1,268,022	1,029	1,769	127	189	18,115	194,226
Bridger Valley Electric Association, Inc., Mountain View	1,082,801	425,027	197	563	99	178	5,041	86,369
Wheatland Rural Electrification Association, Wheatland	921,000	662,512	535	802	99	201	730	80,232
Lower Valley Power & Light, Inc., Freedom	1,539,606	1,058,936	263	1,179	112	260	15,973	309,751
Garland Light & Power Co. Powell	375,300	192,499	133	362	111	174	734	42,580
Washakie Rural Electric Co., Worland	172,500	113,142	93	224	134	222	2,276	34,654
Rural Electric Co., Pine Bluffs	2,310,000	1,933,073	1,776	2,428	139	257	91,894	324,356
Hot SpringsCounty Rural Electric Association, Inc., Thermopolis	1,240,000	464,315	271	522	75	165	12,394	22,350
Carbon Power & Light, Inc., Saratoga	1,057,054	907,772	540	1,082	81	199	12,366	85,580
Niobrara Electric Association, Inc., Lusk	1,151,000	659,514	323	611	-------	93	[2] 16,641	----------
Shoshone River Power, Inc., Cody	415,000	387,196	271	301	276	373	5,936	29,803
Sheridan-Johnson Rural Electric Association, Sheridan	1,100,000	654,485	250	330	--------	201	[2] 14,715	----------
Tri-County Electric Association, Sundance	2,511,746	1,790,982	607	1,005	--------	151	[2] 8,061	8,016
Sheridan Suburban Electric Co., Sheridan	78,700	78,700	165	228	(3)	(3)	(3)	8,413

[1] In all consumer-owned cooperatives the net margin belongs to the individual patrons and is assigned to them, on the basis of their individual payments, as contributed capital which will eventually replace REA loan funds.

[2] Credit.

[3] Loan repaid—information not available.

TECHNICAL IMPROVEMENT PROGRAM

Through the joint efforts of these service systems themselves, a continuing program of management training and technical improvement has been undertaken in the form of a series of training conferences for managers and members of their staffs and for directors. This program is sponsored with the cooperation of the Wyoming State Rural Electrification Association, the State university, and REA, and offers an opportunity for development of safety programs, improved line maintenance, training in office management and administrative leadership, and establishment of sound power use and member relations programs.

Electric Power To Boost Farm Production

ELECTRICITY IS A FARM TOOL

Electricity has become a vital factor in modern farming. It is a recognized fact that the farm is a factory as well as a home, and electricity is an inexpensive production tool on which farmers are coming to depend more and more. This is a particularly significant fact during this period of national mobilization, with agricultural production goals calling for the highest level of farm production in our history.

Several factors lie behind these high production goals—military needs, growing population, depleted reserves of food and feed, efforts to help this Nation's friends in all parts of the world—and, of course, rising standards of living.

In the face of all this, the United States faces not only an almost absolute limit on land available for agriculture, but an acute shortage of farm labor. The drift of population from farm to city is a trend of long standing. During the 12 months from September 1950 to September 1951, the available farm labor force decreased more than 350,000. However, in the past 10 years, while the supply of farm labor has been dwindling, gross production per agricultural worker has increased about 30 percent. This increase in productivity could not have been accomplished if it had not been for the high degree of mechanization and electrification of this Nation's farms. The extent of this increase in productivity in a single branch of agriculture—dairying—is shown in an accompanying chart (chart 1).

COMPARISON OF PRODUCTION PER MAN-HOUR AND PRODUCTIVITY PER COW, INDICATING THE INCREASE IN LABOR PRODUCTIVITY RESULTING PRIMARILY FROM USE OF ELECTRIC POWER

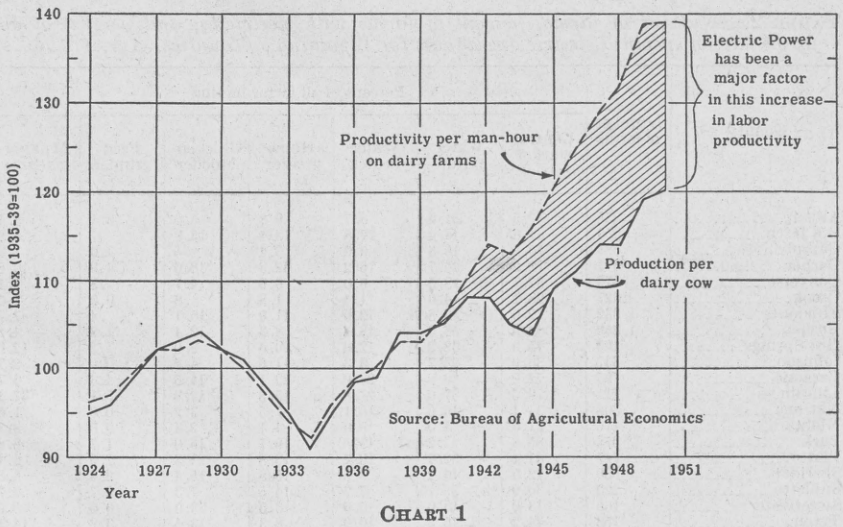


CHART 1

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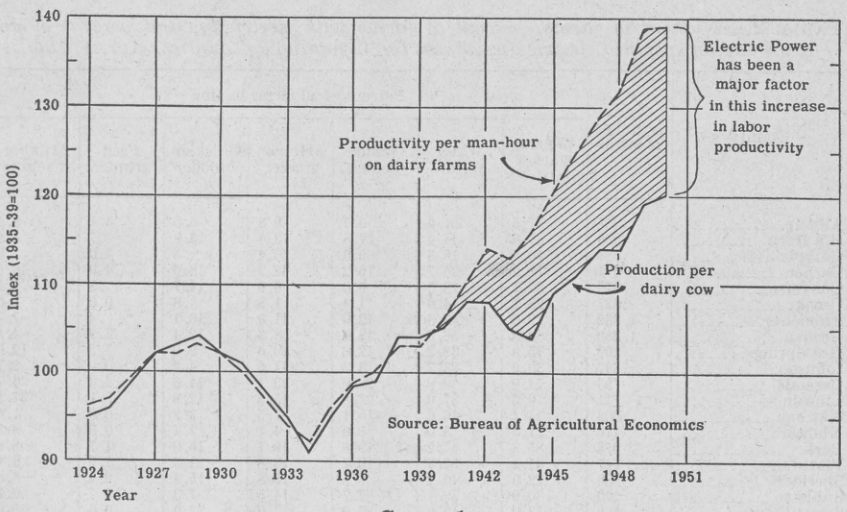

CHART 1

RURAL POWER INCREASES BUSINESS

Another important result of the expanding rural electrification program in Wyoming is the increased business it brings into the rural communities and towns. Surveys indicate that for every dollar invested in rural power facilities, the farmer invests an additional $4.50 in wiring, plumbing, and electrical appliances. In the purchase of electric refrigeration equipment, washing machines, and a variety of other appliances, the ranch and farm families of Wyoming stand high above the national average. Practically every household equipped with electric power is also equipped with one or more radios and with an electric iron. Whereas 63.9 percent of all farms in the State are now connected to the electric highlines, 62.6 percent have purchased electric washing machines.

Several of the rural electric cooperatives in Wyoming are now taking or have just completed surveys of what electric appliances members on the lines and members who are waiting to be connected intend to buy during the months just ahead. This kind of tabulation is made periodically for the purpose of ascertaining the future load requirements which the rural system must anticipate in planning its contracts for wholesale power and in designing system improvements which will provide additional substations, larger transformers, and heavier lines to carry increasing loads. These surveys provide an additional value in estimating the potential market for electrical equipment and appliances. While the figures are of course incomplete, they do indicate that Wyoming's merchants may expect purchases of electric appliances for ranches and farms alone that run well over $2 million within the next 2 years. To this figure must be added a market of almost equal size for wiring materials and plumbing supplies and equipment for rural homes and farmsteads.

Still another economic effect, felt but not susceptible to measurement in the communities in which the rural electric systems are headquartered, is the additional payroll of this new enterprise and then of additional payrolls stemming from rural and small town industries made possible by the availability of electricity. And when low-cost power is available, the establishment of new local enterprises is encouraged.

The availability of electric power in rural areas has attracted factories, defense installations, and other power consumers that help to strengthen the economy of the State. The extent to which rural industry follows power lines is clearly seen in Wyoming with the opening of new sawmills, mines for bentonite and other ores, and additional tourist facilities in the State's many scenic areas and historic places. Oil pumping now constitutes an important load on the rural electric lines of five REA borrowers in the State's northern and northeastern counties.

A typical sample of the way in which rural electric power stimulates the production of more food and better quality farm products is found in Lincoln County, where the Star Valley Swiss Cheese Co., at Thayne, operates with a daily capacity of 10,000 pounds. The plant is served by the Lower Valley Power & Light Co., a cooperative association which also furnishes electric power to make modern dairy farming a growing source of wealth in this part of Wyoming.

Generation and Transmission

THE COST OF POWER

During a period of inflation and rising costs, the wholesale price of electric power in Wyoming and in the United States as a whole has been dropping. Federal power projects and generating facilities of the REA borrowers have made cheaper power available through these additional plants. They have served an additional purpose, however, in encouraging rate reductions of existing commercial suppliers. Within the REA loans program it has been found that the announcement of plans for a new generating plant in an area where power costs are high often is sufficient to bring offers of reductions in wholesale rates. REA's power to make loans for generating and transmission facilities gives rural distribution systems bargaining power in bringing down power costs.

Wholesale power costs in Wyoming dropped each year of the last three and now stand well in line with national averages. Power purchased by REA borrowers in Wyoming during the year ended June 30, 1951, averaged out at 0.78 cent per kilowatt-hour for that supplied by commercial utility companies and 0.76 cent per kilowatt-hour for that obtained from publicly owned suppliers. National averages were 0.89 cent per kilowatt-hour for power from private companies and 0.59 cent per kilowatt-hour for power from public sources.

THE SUPPLY OF POWER IN WYOMING

Most of the rural electric power for Wyoming comes from the United States Bureau of Reclamation. Purchases by REA borrowers during the year ended June 30, 1951, amounted to almost 40 million kilowatt-hours from this source. Commercial suppliers of wholesale power to REA borrowers for rural use are Mountain States Power Co., Montana Dakota Utilities Co., and the Wyodak Coal & Manufacturing Co. Other publicly owned suppliers are a consumers public power district and the cities of Cody and Kimball. Two REA borrowers generate their own power.

The State of Wyoming has an abundance of hydroelectric generating potential. New power plants and additional generating capacity in existing plants have been installed in a race to keep up with the growing demands on distribution lines.

However, while the picture of installed generating capacity appears brighter, lack of adequate transmission lines still bars some parts of the State from having electric service.

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